

**House Subcommittee on Telecommunications, Trade and Consumer Protection  
of the Commerce Committee**

**Chairman, the Honorable W.J. "Billy" Tauzin**

**April 28, 1997**

**Written Comments from Ford Motor Company on Air Bag Safety Issues**

Ford Motor Company believes that air bags are an important and effective occupant restraint technology. Air bags and safety belts do save lives. But we are greatly concerned about the fatal injuries that have been associated with air bags and about the resulting misinformation about air bag risks that may undermine their usage and effectiveness.

Air bags are a supplemental restraint system. They are designed to be used with safety belts, and their effectiveness depends upon proper use of safety belts. Ford has long maintained that safety belt use is the single most important form of occupant protection. Virtually all of the children and most of the adults in these air bag-associated fatalities were unrestrained or improperly restrained. In order to lessen these risks, the two most immediate and important actions we must take are to (1) increase the proper use of safety belts, air bags and child safety seats and (2) reduce the force with which air bags inflate. In addition, we also are engaged actively in the development of next generation restraint technologies that will provide an even greater level of protection.

Clearly, manufacturers and government collectively face some major challenges. As we work to improve today's restraint systems and to develop the next generation of

advanced restraint technologies, it is important to have a clear set of objectives in mind in order to properly address the safety tradeoffs and maximize the benefits.

We recommend a focus on the following priorities:

- 1) Provide the best practicable protection for belted occupants
- 2) Reduce further the risk of air bag-related injuries
- 3) Provide additional protection to the unbelted occupant -- provided that we can do so in a manner that is consistent with the first two priorities.

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#### Safety Belt Usage

To increase proper safety belt usage -- which is key to the effectiveness of all restraint technologies -- Ford has joined other manufacturers, insurers and the government in funding a major safety education campaign. Ford has committed \$3.4 million to the Air Bag Safety Campaign, whose goals are to increase safety belt usage by improving state safety belt laws and their enforcement and to improve public awareness of proper air bag and restraint usage, with particular emphasis on child safety restraints. In addition, we have almost completed sending over 9 million letters to Ford customers including labels warning parents to use safety belts, put children 12 and under in the rear seat whenever possible, and never place rear-facing infant seats in the front seat unless the vehicle has no rear seat and the air bag has manually been switched off. We provide informative literature on child restraints through our dealerships, and we are sponsoring the nationwide distribution of about 100,000 copies of a NHTSA-developed newborn child safety video and instructional guide. And finally, Ford has entered into a three year partnership with the Children's Television Workshop to use "Sesame Street" characters in a variety of ways to deliver safety messages to children and their parents. Above all, Big Bird will urge kids to buckle up and to sit in the back seat.

We commend President Clinton and Transportation Secretary Slater for their leadership in initiating an aggressive new federal program to increase safety belt usage. We urge

the Congress to participate fully by providing appropriate programs and funding. Increasing safety belt usage is the most effective way to save lives on U.S. highways. Experience around the world has shown that standard enforcement laws are the best way to increase safety belt usage. We are pleased that the Administration's plan emphasizes the use of incentives to the States to enact and enforce safety belt laws that will achieve real results.

Aside from the obvious benefits to drivers, a recent Ford study of accident data showed a strong relationship between driver belt use and use of child restraints and safety belts by children and others in the vehicle. We found that 92 percent of preteens riding in the front seat were belted if the driver was belted, but only 9 percent wore belts if the driver did not. This dramatic result demonstrates that increasing safety belt use -- particularly by drivers -- is key to improving child safety.

#### Depowering of Air Bags

Reduction of air bag inflation power also is critical to further lessening the risk of injury. Ford was the industry's first proponent of this approach. In 1995, we advised NHTSA that federal safety standards should be revised to allow air bags with less powerful inflation. In 1996, AAMA formally petitioned NHTSA for the authority to depower air bags and earlier this year that authority was granted. In Canada, where no federal regulations prohibit this action, Ford led the industry with its commitment last year to depower air bags in Canada. Today, we commend NHTSA for its recent rule that now makes it possible for us to install lower inflation power air bags in the United States.

I'm pleased to announce that Ford's leadership in this area will continue. By the start of the 1998 model year this fall, every single Ford vehicle line in North America will have new air bags with lower inflation power. The first model to be so equipped, the Lincoln Navigator -- will be available on July 1. We view this rapid response as an important part of our commitment to the safety and security of our customers. And we are pleased that NHTSA's action permits us to take this important step.

### Concerns with "Sunsetting" of the Sled Test Requirement

We are very concerned, however, that the "sunset" provision in NHTSA's depowering rule means that these lower powered air bags will be permitted for only four years. In other words, in four years we will automatically return to the unbelted test requirement developed in the early 1980s -- the same test which has resulted in today's higher powered inflators -- and setting aside all that we have learned in the interim. We are concerned that this sunset provision -- though well-intentioned -- will reduce occupant safety and retard the development of advanced air bag systems.

Ford believes -- based on extensive research -- that this new generation of depowered air bags will provide a good balance of protection for all occupants, including large, unbelted adults. We will provide this analysis to NHTSA as part of our petition for the agency to reconsider the sunset provision. Any potential incremental risk to unbelted passengers -- however minimal -- is easily addressed if the belt usage rate among these adults is increased.

We also believe that rapid development of the next generation of advanced technologies is important in order to more completely address the risk of air bag-related injuries to out of position small adult drivers and young passengers. The intent of the sunset provision likely was to force an acceleration of these efforts. But a return to the old unbelted test requirement in 2001 will have the opposite effect! Regressing to these old test procedures could retard the development and adoption of the most promising advanced technologies because the tests emphasize protection of large unbelted males in extremely rare violent crash situations.

The change we are making today, toward lower powered inflators which appropriately emphasize protection for belted occupants, is a move in the right direction. New rules -- and new technologies -- should build upon this first step rather than returning to past, imperfect approaches. The sunset provision suggests that depowered air bags are just a temporary, interim measure that would be completely replaced by next generation systems. Ford disagrees. We see the lower powered air bags being installed in our

1998 model vehicles are the first step -- a "building block" -- toward next generation restraint systems. And the ability to use the sled test is needed to permit us to continue moving forward.

In order to ensure rapid development of next generation systems, NHTSA and manufacturers have agreed upon a cooperative process designed to achieve advanced restraint technologies as rapidly as possible. We have reviewed our advanced restraint plans with NHTSA and believe they agree that we are moving forward as fast as practicable given the need for safe, reliable, and effective systems.

Nevertheless, many of the technologies being investigated require much work before they can be considered production ready. A deadline of September, 2001 provides very little flexibility -- as manufacturers must decide on the restraint systems to be designed into our vehicles several years in advance, and there do not yet exist even the performance criteria to which such advanced systems would have to be tested. It is far from certain that any will be deemed sufficiently safe, reliable and effective within that time frame. And if next generation systems are not ready in time to be programmed into our vehicle plans, the only alternative permitted by the sunset provision is to go backward. Manufacturers would be forced to return to certifying vehicles using the barrier test eliminated in the depowering rule -- which could necessitate the installation of the higher output airbags that we are now eliminating. Since safety belt usage rates will undoubtedly be higher in four years, these airbags which emphasize protection of the unbelted occupant will not represent an appropriate safety tradeoff.

Debate on the effectiveness of depowered air bags and on the appropriateness of various alternative technologies will no doubt continue for years. That is a healthy and necessary process to make sure that the best interests of the motoring public are served. But it is important that we not prejudge a new technology. The decision on whether or not to continue allowing the sled test should be based on facts and not on an arbitrary cutoff date. AAMA and NHTSA are developing plans for a comprehensive review of the field performance of depowered systems. Before hard decisions are made, careful

consideration must be given to the implications of test procedures on the new technologies being developed.

#### Unbelted Testing Requirements

One procedure that has been the focus of much discussion is that of unbelted testing. Prior to NHTSA allowing the sled test, Senator Kempthorne proposed that unbelted testing of vehicles be eliminated entirely. We agree that the unbelted barrier test that was required until March of this year should never again become the sole means of compliance because it has contributed to the risk of injury to out of position adults and small children. For now, we believe that the sled test has achieved the intent of this proposal. But if the sunset provision is not rescinded or revised, this test will once again be required in four years -- a situation we regard as unacceptable in terms of the safety of our customers.

The broader question of whether unbelted testing should be eliminated entirely must be addressed in the context of all the work being done on advanced restraint technologies. As performance requirements for next generation systems are developed, the need for some form of unbelted testing should be given careful consideration. But we must prioritize testing modes as we cannot test every possible situation. And, consistent with the priorities mentioned at the beginning of these comments, belted and out of position testing should take precedence.

#### Advanced Technology Development

Ford and its air bag suppliers are aggressively pursuing the next generation of air bags -- which will be designed with increasingly sophisticated sensing of occupants and crash parameters. This is a continuation of our three decades of air bag technology development. Ford, GM, and Chrysler -- through the United States Consortium for Automotive Research (USCAR)-- have entered into a cooperative effort with NHTSA and other vehicle and restraint manufacturers to ensure expedient and effective progress in this important area. Clear definition on the performance targets to be met, and stage-by-stage consensus on new technologies, are the cornerstones of this process.

In order to define the appropriate safety issues to be addressed by next generation restraint system designs, we must continue to gather data about the level of protection people are getting, and the circumstances under which they are getting hurt. A comprehensive study has been undertaken -- through NHTSA's Motor Vehicle Research Advisory Committee -- to determine the real-world safety performance of restraint systems, including new lower powered air bags, and how we might best further advance air bag technology. Agreement on policy objectives -- as stated earlier -- and development of focused information on the real-world performance of present systems both must precede any hard decisions on the new technologies to be implemented.

Concurrently, manufacturers, working through NHTSA's contractor Jet Propulsion Laboratories, are reviewing with the agency all of the advanced restraint technology systems presently under development. Stage by stage assessment and agreement will result in new systems that appropriately address safety needs, will help avoid unintended consequences, and also will minimize the development time needed to get new technologies to market. This orderly and cooperative process is key to the development of an effective performance-based standard for occupant protection and air bags of the future. It will that technical work is proceeding in the right direction to achieve the optimal safety benefits, and that progress is made as quickly as possible.

Ford Motor Company is committed to developing new restraint systems that will further improve the level of occupant protection enjoyed by our customers. As soon as new technologies can be demonstrated to be safe, reliable, and effective we will work to put them on the road as quickly as possible. And we believe strongly that this progress can best be achieved through NHTSA and manufacturers working together to find and implement the best solutions. Mandating installation of specific technologies by arbitrary deadlines -- a traditional approach -- could be most counterproductive and result in inappropriate safety tradeoffs.

Cooperative, fact-based efforts such as this partnership are a means of ensuring sound solutions. The complexity of many of the technologies being discussed leaves much



room for misunderstanding without close communication. For example, in previous Congressional hearings and in other fora, it has been suggested that systems exist which could have prevented many of the child fatalities that have occurred in low speed air bag deployments. This is not true. The dual deployment threshold systems in question vary the deployment threshold speed -- not the power of inflation -- based on whether the occupant is wearing a safety belt. If the occupant is belted, then the air bag deployment threshold is increased to around 18 mph. But if the occupant is unbelted, the threshold deployment speed is about 12 mph, the typical deployment speed used by virtually all manufacturers. Air bag inflator power is the same in either case, regardless of the deployment threshold speed. Since most of the child fatalities have involved unbelted or improperly belted occupants, this system would not have prevented fatal injuries because the air bags would have deployed at the lower deployment threshold speed.

#### Air Bag Deactivation

In the meantime -- even without any enhancements to today's systems -- Ford firmly believes that for the vast majority of owners, air bags provide important supplementary protection to seat belts and should not be disconnected. We, along with 25 other companies in our industry, oppose air bag disconnection without any demonstrated, medically-based safety need ("on demand" deactivation), as we believe the extent of the misinformation is so great that many people who clearly should not be disconnecting their air bags would do so. Such a policy would be inconsistent with motor vehicle safety -- and also would send the wrong message and further undermine consumer confidence in this important safety technology. We also believe, however, that government and industry share a responsibility to respond to customer concerns and questions about air bags. Accordingly, we believe NHTSA should amend its current "disconnect" procedure to create a responsive, customer-friendly system with better recordkeeping and a means of addressing dealer liability concerns. For its part, Ford is developing reliable and reversible disconnect technology for use in those few medically-based instances in which air bags are permitted to be disconnected.

Whatever decision NHTSA makes regarding the availability of deactivation, we believe that its announcement should be coupled with an extensive public education program to ensure that consumers are making this important decision based upon sound knowledge. Timing also is a concern, as announcement of a disconnection policy must be coordinated with the availability of necessary hardware. Even though deactivating their air bags may not be in their best interest, we believe many customers nonetheless will wish to take action immediately upon hearing NHTSA's decision. And they will be frustrated if necessary parts are unavailable at their dealerships. As we explained to NHTSA, we are looking at various means of deactivation including the on/off switches presently on our pickup trucks. We are in the process of modifying the design of this system to enable either the driver or passenger side air bag to be temporarily deactivated. But these could not be available at dealerships before the fall. An alternative approach would involve semi-permanent deactivation using a shunt. Although a simpler system, still it could not be available in sufficient quantities until about mid-June. We urge NHTSA to take such timing issues into consideration.

#### Summary

In summary, today's U.S. air bag regulation originated in 1984 when belt use was around 12 percent. Fortunately, today about 68% of front seat occupants are belted and that rate should continue to increase in light of aggressive industry and government initiatives. And we also have learned that air bags alone -- without belts -- do not provide as much occupant protection as some had originally hoped. So as we move forward, we need to reframe the air bag policy discussion around today's realities. Priority should be placed first on maximizing protection for belted occupants while minimizing the risk of harm to children and small adults, and then on providing the highest feasible occupant protection for unbelted adults.

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Pursuant to Rule XI, clause 2(g)(4) of the Rules of the House and Rule 4(b)(2) of the Committee rules, we must disclose Ford's federal government contracts and grants relevant to the subject matter of testimony being offered by the Ford witness. Ford did not receive any grants during the period specified, and in our opinion none of the contracts are relevant to the subject matter of this testimony. We do participate in a number of government-industry research partnerships and a full listing of Ford's government contracts and subcontracts is of course available upon request.

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